

# NANOMETER-SCALE SEMICONDUCTOR DEVICES AND METHOD OF MAKING

## ABSTRACT

5           A semiconductor device including a substrate having a dopant of a first polarity, a first semiconducting structure including a dopant of a second polarity disposed over the substrate, and having substantially planar top and side surfaces. The semiconductor device includes a first junction, formed between the first semiconducting structure and the substrate, having an area  
10       wherein at least one lateral dimension is less than about 75 nanometers.